

## Warmup #2: Intro to Vectors

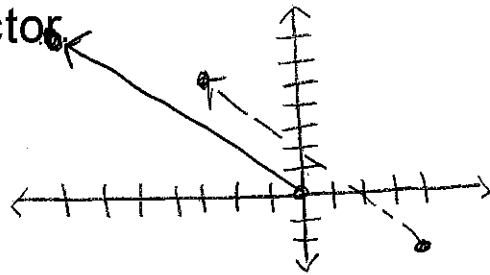
1. Initial point,  $(4, -2)$ ; Terminal Point,  $(-3, 5)$ .

a) find the component form of the vector

b) sketch in standard position.

$$\langle -3 - 4, 5 - (-2) \rangle$$

$$\boxed{\langle -7, 7 \rangle}$$



2. Use  $u = \langle 4, -2 \rangle$  and  $v = \langle -3, 5 \rangle$ , to find:

a)  $u + v = \langle 4, -2 \rangle + \langle -3, 5 \rangle = \boxed{\langle 1, 3 \rangle}$

b)  $v - u = \langle -3, 5 \rangle - \langle 4, -2 \rangle = \boxed{\langle -7, 7 \rangle}$

c)  $v + 4u = \langle -3, 5 \rangle + 4 \langle 4, -2 \rangle = \langle -3, 5 \rangle + \langle 16, -8 \rangle = \boxed{\langle 13, -3 \rangle}$

d)  $2u - 3v = 2 \langle 4, -2 \rangle - 3 \langle -3, 5 \rangle = \langle 8, -4 \rangle - \langle -9, 15 \rangle = \boxed{\langle 17, -19 \rangle}$